SANTA CRUZ BIOTECHNOLOGY, INC.

BCAR3 (h): 293T Lysate: sc-115467

BACKGROUND

BCAR3 (breast cancer anti-estrogen resistance 3, also designated AND-34 in murine; a novel SH2-containing protein 2 or NSP2, and SH2D3B) overexpression is a characteristic of anti-estrogen resistance in human ZR-75-1 breast cancer cells. The deduced 825 amino acid BCAR3 protein contains a Src homology 2 (SH2) domain and shares homology to yeast Cdc48. A 3.4 kb BCAR3 transcript is present in heart, placenta, skeletal muscle, spleen, testis, prostate, ovary, small intestine, colon, fetal kidney and tamoxifen-resistant cancer cell lines. BCAR3 acts as a regulator of R-Ras to mediate the level of Insulin receptor substrate 1 (IRS-1) in MCF-7 and ZR-75-1 breast cancer cell lines. BCAR3 also interacts with p130Cas to enhance Src activation and cell migration.

REFERENCES

1. Van Agthoven, T., Van Agthoven, T.L., Dekker, A., Van Der Spek, P.J., Vreede, L. and Dorssers, L.C. 1998. Identification of BCAR3 by a random search for genes involved in anti-estrogen resistance of human breast cancer cells. EMBO J. 17: 2799-2808.
2. Gotoh, T., Cai, D., Tian, X., Feig, L.A. and Lerner, A. 2000. p130 Cas regulates nucleotide exchange factor. J. Biol. Chem. 275: 30118-30123.
3. Cai, D., Iyer, A., Felekkis, K.N., Near, R.I., Luo, Z., Chernoff, J., Albanese, C., Pestell, R.G. and Lerner, A. 2003. AND-34/BCAR3, a GDP exchange factor whose overexpression confers anti-estrogen resistance, activates Rac, Pak1, and the cyclin D1 promoter. Cancer Res. 63: 6802-6808.
4. Riggins, R.B., Quilliam, L.A. and Bouton, A.H. 2003. Synergistic promotion of c-Src activation and cell migration by Cas and AND-34/BCAR3. J. Biol. Chem. 278: 28264-28273.
5. Dorssers, L.C., Van Agthoven, T., Brinkman, A., Veldscholte, J., Smid, M. and Dechering, K.J. 2005. Breast cancer oestrogen independence mediated by BCAR1 or BCAR3 genes is transmitted through mechanisms distinct from the oestrogen receptor signalling pathway or the epidermal growth factor receptor signalling pathway. Breast Cancer Res. 7: R82-R92.
6. Yu, Y., Hao, Y. and Feig, L.A. 2006. The R-Ras GTPase mediates cross talk between estrogen and Insulin signaling in breast cancer cells. Mol. Cell. Biol. 26: 6372-6380.

CHROMOSOMAL LOCATION

Genetic locus: BCAR3 (human) mapping to 1p22.1.

PRODUCT

BCAR3 (h): 293T Lysate represents a lysate of human BCAR3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

BCAR3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive BCAR3 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.